SONY

3-990-135-13 (1)

FM STEREO/LW/MW/SW PLL
SYNTHESIZED RECEIVER • SYSTEM

ICF-SW1S

OPERATING INSTRUCTIONS page 2

Before operating the unit, please read this manual thoroughly and retain it for future reference.

MODE D'EMPLOI page 34

Avant de faire fonctionner cet appareil, prière de lire attentivement ce mode d'emploi et de le conserver à titre de référence ultérieure.

MANUAL DE INSTRUCCIONES página 66

Antes de utilizar la unidad, lea este manual detenidamente y consérvelo para futuras referencias.

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English

WARNING

To prevent fire or shock hazard, do not expose the unit to rain or moisture.

To avoid electrical shock, do not open the cabinet. Refer servicing to qualified personnel only.

NOTICE FOR THE CUSTOMERS IN THE UNITED KINGDOM

IMPORTANT

The wires in this mains lead are coloured in accordance with the following code:

Blue : Neutral
Brown : Live

As the colours of the wires in the mains lead of this apparatus may not correspond with the coloured markings identifying the terminals in your plug proceed as follows:

The wire which is coloured blue must be connected to the terminal which is marked with the letter N or coloured black.

The wire which is coloured brown must be connected to the terminal which is marked with the letter L or coloured red.

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FEATURES

Refer to the pages indicated in ● for details.

- An FM stereo/LW/MW/SW receiver with world-wide band coverage.
- Quartz controlled PLL (Phase Locked Loop) synthesizer system using a microcomputer for easy pinpoint tuning. The tuned frequency is digitally displayed.

Direct tuning ..Tuning in the station by inputting the frequency of the station directly ⑯
Manual tuning ..Even if you don't know the frequency of the station, you can tune in the station precisely. ⑱
Scan tuning ....An automatic searching of a station ⑳
Preset tuning ...Up to 10 stations can be preset for button-touch tuning ㉒
Timer standby ..The function to receive a desired station at the desired time ㉔
Sleep timer.....Turning the radio off automatically in 65 minutes ㉖
Power sources ..Three different power sources: internal batteries, house current, car batteries ⑩
With the supplied AC power adaptor, any AC power source is available.

The ICF-SW1S system includes following components.
- FM stereo/LW/MW/SW PLL synthesized receiver ICF-SW1
- Active antenna
- AC power adaptor
- Stereo earphones

PRECAUTIONS

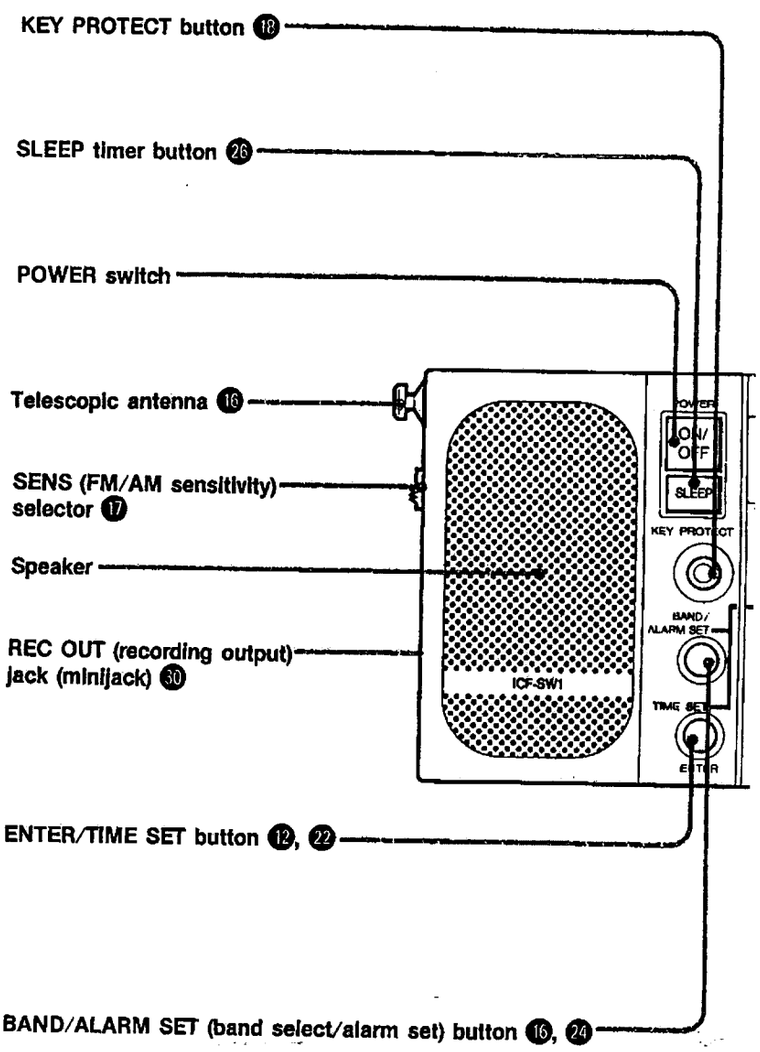
- Operate the unit only on 3 V DC.
  For battery operation, use two size AA (R6) batteries.
  For AC operation, use the AC power adaptor supplied with this unit; do not use any other type.
  For car battery operation, use the car battery cord recommended for this unit; do not use any other type.
- Do not leave the unit in a location near heat sources, or in a place subject to direct sunlight, excessive dust, or mechanical shock.
- Use the unit within a temperature range of 0°C to 40°C (32°F to 104°F). If it is used in temperatures outside this range, numbers may appear on the frequency and clock display which have nothing to do with the frequency being received. If it is used in temperatures lower than this range, the numbers displayed may change very slowly. These irregularities will disappear and there will be no damage to the unit when the unit is used in its recommended temperature range.
- Should any solid object or liquid fall into the unit, remove the batteries, and have the unit checked by qualified personnel before operating it any further.
- Since a strong magnet is used for the speaker, keep personal credit cards using magnetic coding or spring-wound watches away from the unit to prevent possible damage from the magnet.
- When the casing becomes soiled, clean it with a soft cloth dampened with mild detergent solution. Never use abrasive cleansers or chemical solvents, as they may mar the casing.

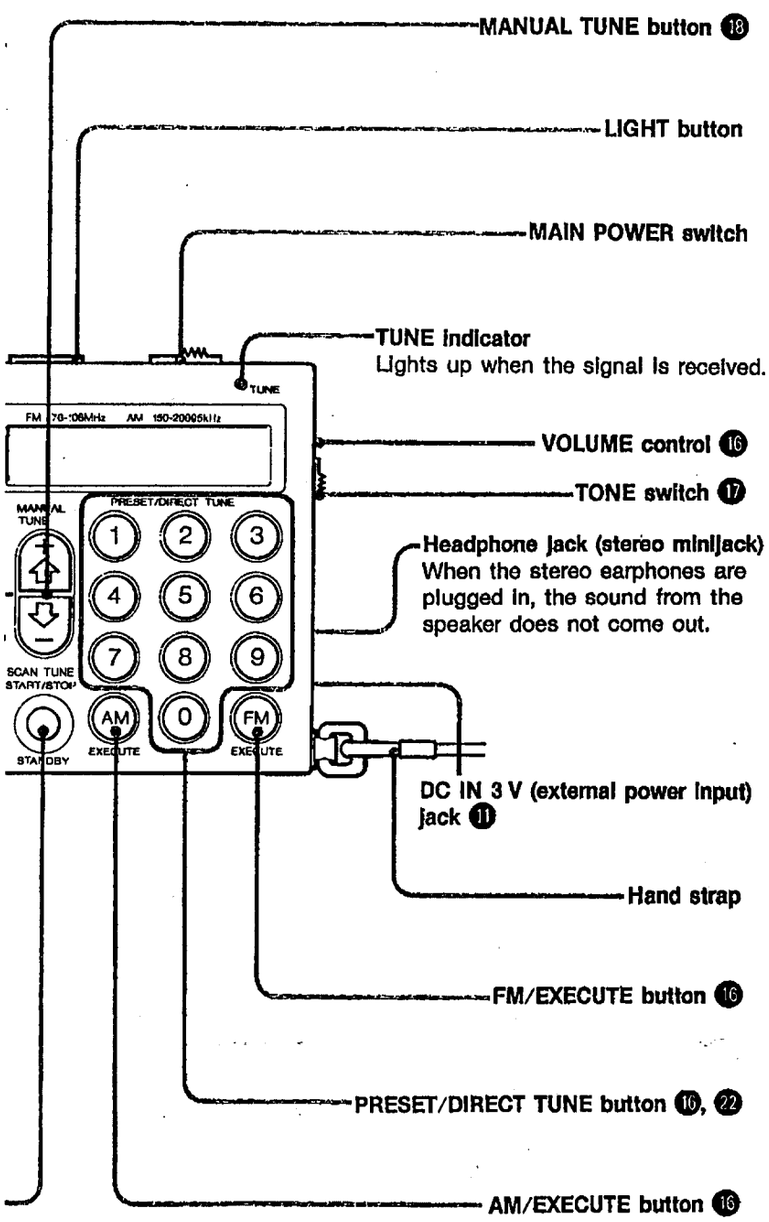
If you have any question or problem concerning your unit that is not covered in this manual, please consult the nearest Sony dealer.

LOCATION AND FUNCTION OF CONTROLS

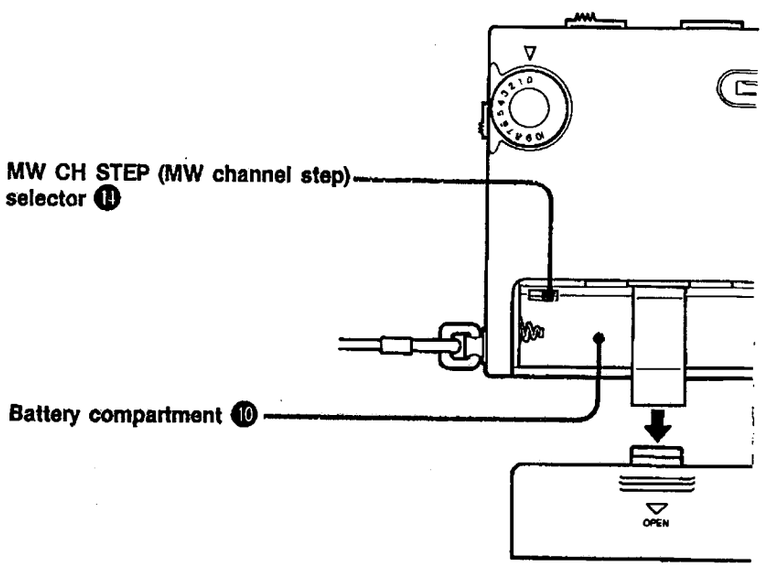
Refer to the pages indicated ● in for detail.

Front panel

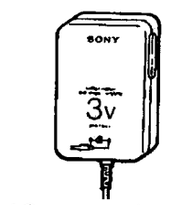



MANUAL TUNE button 18
LIGHT button
MAIN POWER switch
TUNE indicator
Lights up when the signal is received.
TUNE
VOLUME control 16
TONE switch 17
Headphone jack (stereo minijack)
When the stereo earphones are plugged in, the sound from the speaker does not come out.
PRESET/DIRECT TUNE
MANUAL TUNE
SCAN TUNE START/STOP
STANDBY
AM
FM
EXECUTE
DC IN 3 V (external power input) jack 11
Hand strap
FM/EXECUTE button 16
PRESET/DIRECT TUNE button 16, 22
AM/EXECUTE button 16

Rear panel



Supplied accessories

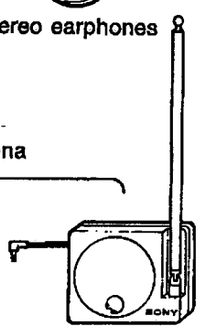


AC power adaptor

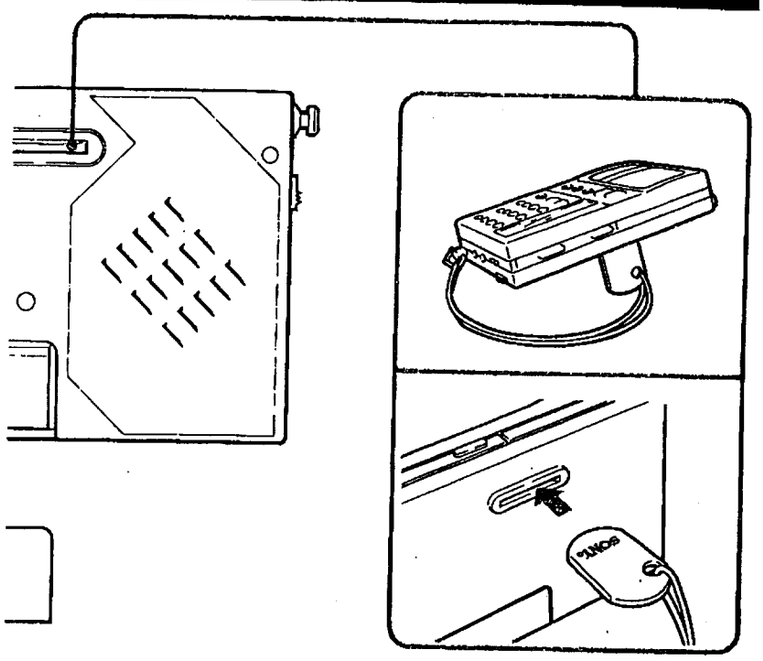
Stereo earphones

Active antenna

Antenna controller



Antenna module



Carrying case (hard)

Carrying case (soft)

Wave handbook

AC plug adaptor*
(except for United Kingdom and Australia)

Suction cup

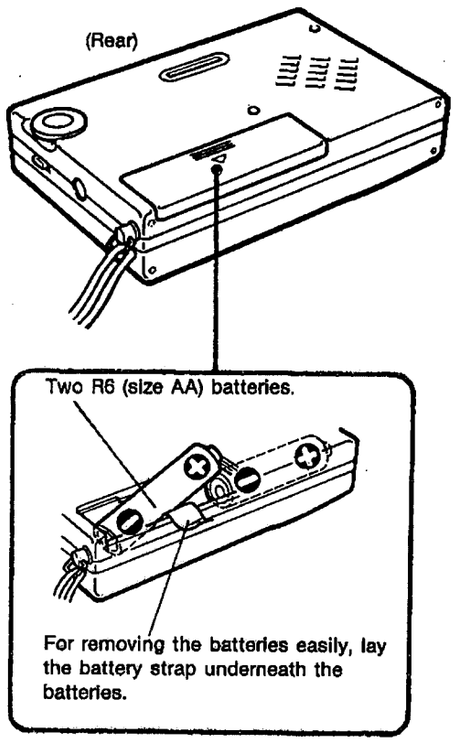
Carrying belt

* The design differs according to the country where purchased.

POWER SOURCES

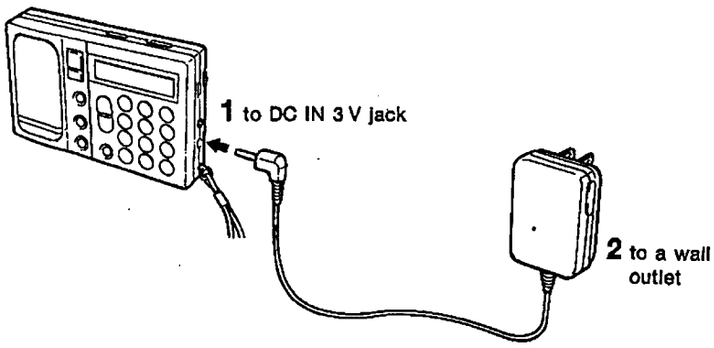
HOW TO INSTALL BATTERIES

Before installing the batteries, be sure to check that the MW CH STEP selector is set correctly. (see page 14)



Battery replacement
Replace all the batteries with new ones when the sound becomes weak or distorted.
Do it within ten minutes since the preset stations and the current time will be erased when more than ten minutes have passed.
In this case, preset the stations and set the time again.

HOUSE CURRENT



After using the AC power adaptor*, disconnect the DC IN 3 V jack first. If you leave the AC power adaptor connected to the DC IN 3 V jack and disconnected to a wall outlet, **the time may be reset and the preset stations may be erased.**

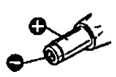
For customers except for the United Kingdom and Australia
To use the AC power adaptor in area of 220–240 V AC power supply, use the supplied AC plug adaptor.

12 V CAR BATTERY

For use on 12 V car battery, connect the Sony DCC-70 car battery cord (optional) to the DC IN 3 V jack.

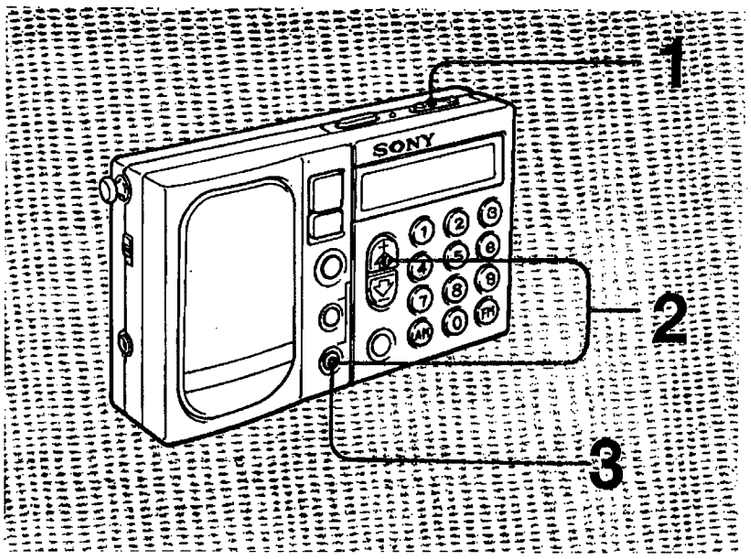
Notes

- The internal batteries are automatically disconnected when the AC power adaptor or the car battery cord is connected to the DC IN 3 V jack.
- Keep the batteries installed for the built-in computer back-up even if you use the external power sources. If you don't, the preset stations and current time will be erased.
- The design differs according to the country where purchased.
- Use only the recommended car battery cord manufactured by Sony. Polarity of the plugs of other manufacturers may be different.



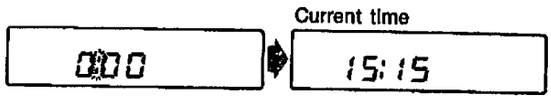
Polarity of the Sony plug

HOW TO SET THE CLOCK



1 Set MAIN POWER to ON.

2 Press MANUAL TUNE while keeping TIME SET pressed to adjust the clock to the current time. To advance the time digits rapidly, keep MANUAL TUNE pressed. Press it to adjust the time indication precisely.



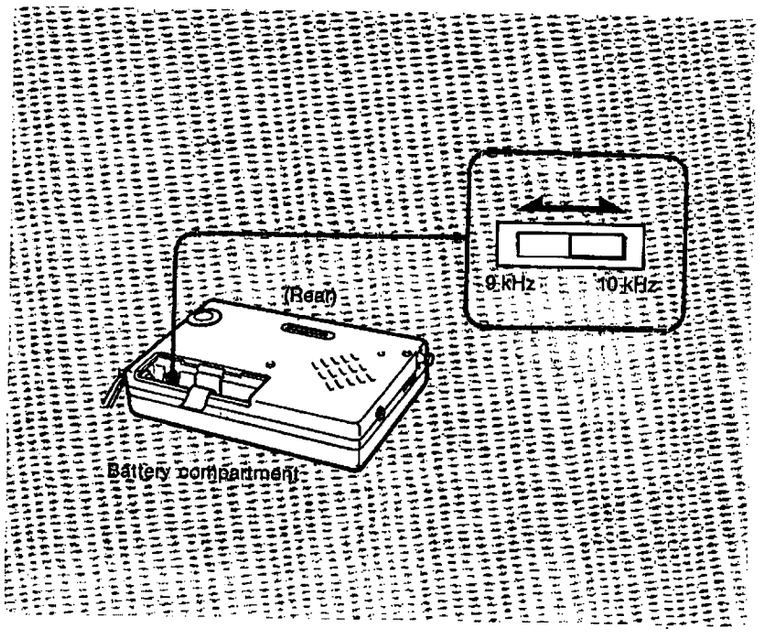
3 Release TIME SET.
The clock will begin to operate.

Setting the clock while listening to the radio
You cannot set the clock while you are listening to the radio. Be sure to press ON/OFF to turn the radio off and set the clock.

The display when MAIN POWER is OFF
The current time is displayed.

Zero second adjustment
If you want to adjust the time exactly to the second with a telephone time signal, proceed as in the following example.
Example: To set to 19:15
1 Adjust the time indication to 19:15 and keep TIME SET pressed.
2 Release TIME SET simultaneously with the telephone time signal. The clock will then begin to operate showing the precise time of day.

HOW TO CHANGE THE MW CHANNEL STE



The MW channel step is preset at the factory to 9 kHz to match the frequency allocation system of the country. If you use the radio where the frequency allocation system is based on a 10 kHz interval, such as in the U.S.A. and Canada, set the MW CH STEP selector in the battery compartment to 10 kHz.

1 **Set MAIN POWER to OFF.**

2 Open the battery compartment and **take out the batteries.**

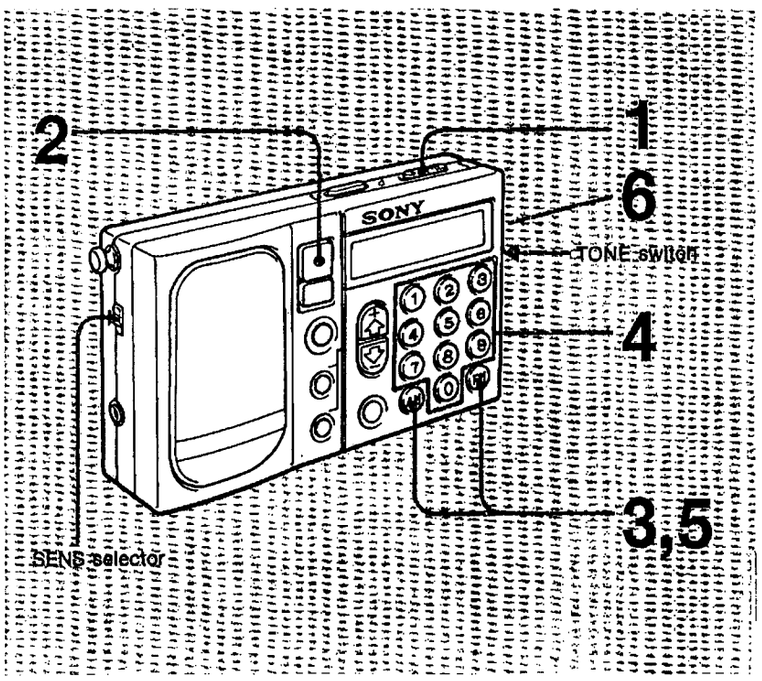
3 **Change the MW CH STEP selector.**

4 **Install the batteries** and close the battery compartment.

5 **Set MAIN POWER to ON.**

Change the MW CHANNEL STEP within 10 minutes
If more than 10 minutes have passed, the preset stations and the current time will be erased. In this case, preset the stations and set the time again.

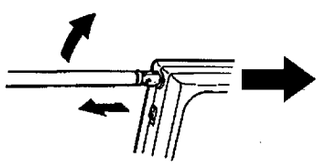
DIRECT TUNING



To improve receiving condition

MW/LW

FM/SW



If you input a wrong frequency
Press FM/EXECUTE or AM/EXECUTE again and input the correct frequency.

NOTICE
Reception of 1.8 MHz and 3.6 MHz may be difficult because of internal spurious signals generated by the built-in oscillators.

When the stations whose frequency has been input cannot be tuned in
This occurs when you have not pressed the band button (FM or AM) within 5 seconds after inputting the frequency of the desired station.

When the frequency near the input frequency is displayed
The frequencies which this radio receives are allocated in the following intervals depending on the broadcast band.
Therefore, if you input a frequency that does not match these intervals, the frequency just below will be tuned in and be displayed.

FM: 0.1 MHz SW: 5 KHz
MW: 9 KHz* LW: 3 KHz
*Possible to change to 10 KHz depending on the country where used (see page 12)

1 Set MAIN POWER to ON.

2 Press ON/OFF.
The radio is turned on.

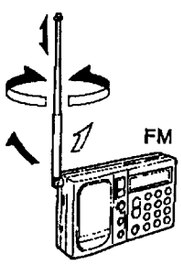
3 Press the desired band (FM or AM) button.
To receive SW, MW, LW, press AM.

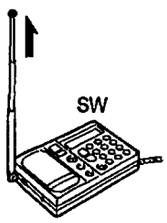
4 Input the frequency of the station by pressing DIRECT TUNE.
EX. AM. 810 kHz

5 Press the same band button again within 5 seconds.
The station will be tuned in.

6 Adjust the volume.

To turn off the radio, press ON/OFF.



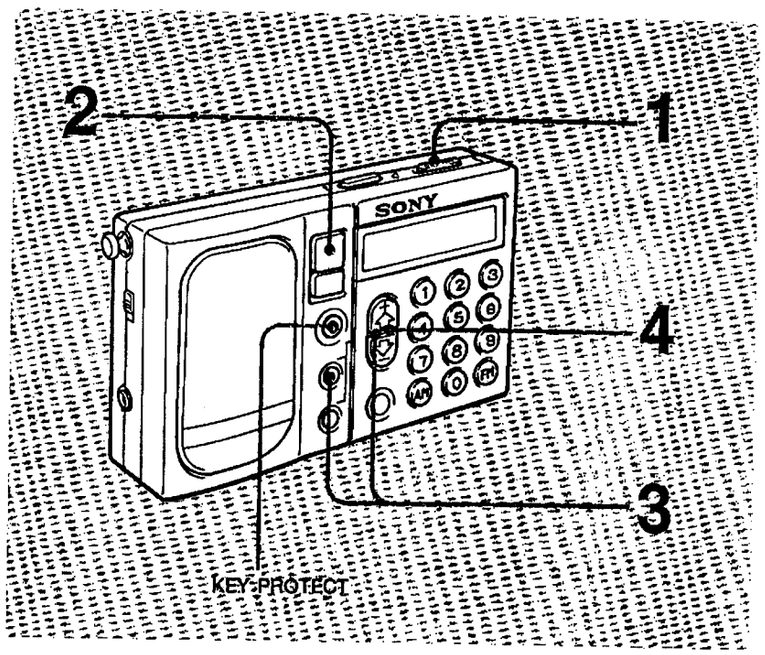


The TRY AGAIN! indication
If you input the frequency outside the frequency range (FM 76-108 MHz, AM 150-29995 kHz), TRY AGAIN! blinks. When you press FM/EXECUTE or AM/EXECUTE again, this indication disappears. If you leave this indication, it will disappear after about 5 seconds and the tuned station's frequency will reappear.

When the sound is distorted
Normally set SENS to DX, however, when the sound is distorted set it to LOCAL.

When you are hearing the news
Set TONE to NEWS. Vocal will be heard more clearly. When you are listening to the music set it to MUSIC.

MANUAL TUNING



To prevent accidental change of the receiving station
Press KEY PROTECT. The ⊶ mark appears in the display window and all the buttons on the front panel do not work.
To release the KEY PROTECT function, press KEY PROTECT again.

When the station is tuned in
The tuning indicator lights up.

1 **Set MAIN POWER to ON.**

2 **Press ON/OFF.**
The radio is turned on.

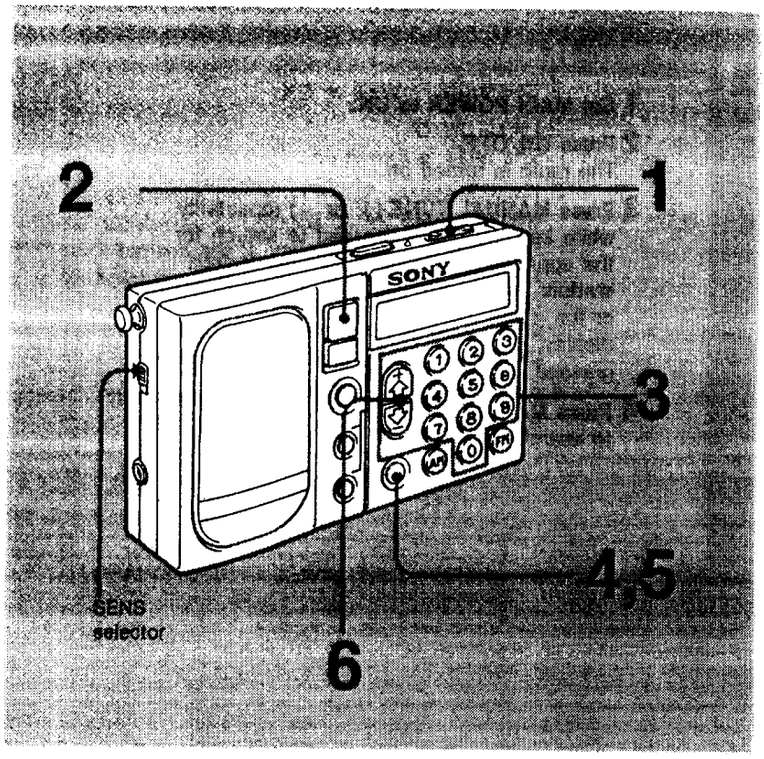
3 **Press MANUAL TUNE (+ or −) repeatedly while keeping BAND pressed to search for the approximate frequency of the desired station.** The lowest frequency of each band or the meter band of SW appears in the display. If you keep MANUAL TUNE pressed, the band changes continuously.

4 **Press MANUAL TUNE (+ or −) repeatedly** to search for a desired station.

Frequency band changes continuously
If you keep MANUAL TUNE (+) pressed, the frequency band being tuned will change from LW, to MW, SW, FM and then back to LW.

What is meter band?
SW is devided into 14 bands by the wave length (meter).
Each band is called meter band. (see pages 20, 21)

SCAN TUNING



The frequency range and the tuning interval of each broadcast band

Broadcast band		Frequency range	SW meter band
AM	LW	150 kHz ~ 528 kHz *1	
	MW	531 kHz ~ 1611 kHz 530 kHz ~ 1610 kHz	*2
	SW	1615 kHz ~ 2245 kHz	*3
		2250 kHz ~ 2550 kHz	120 meter band
		3150 kHz ~ 3450 kHz	90 meter band
		3850 kHz ~ 4050 kHz	75 meter band
		4700 kHz ~ 5100 kHz	60 meter band
		5900 kHz ~ 6250 kHz	49 meter band
		7000 kHz ~ 7400 kHz	41 meter band
		9400 kHz ~ 10000 kHz	31 meter band

*1 150-285 kHz for the model for Saudi Arabia and Malaysia.
*2 The frequency range is different according to the MW CH STEP selector.
*3 These frequencies can be tuned in either by direct tuning or manual tuning but cannot be selected by pressing both BAND and MANUAL TUNE buttons.

When scan tuning stops too often
Set SENS to LOCAL.

1 **Set MAIN POWER to ON.**

2 **Press ON/OFF.**

3 **Receive a broadcast band** by pressing MANUAL TUNE while keeping BAND pressed, or by pressing DIRECT TUNE. (Refer to the table below for the frequency range of each broadcast band.)

4 **Press SCAN TUNE.**
Within the frequency range of the table below, scan tuning will begin and stop automatically for 1.5 seconds when a station is received and then the tuning indicator lights up.

5 **Press SCAN TUNE again** to listen to the station being received.
Scan tuning stops and the station being received is tuned in.

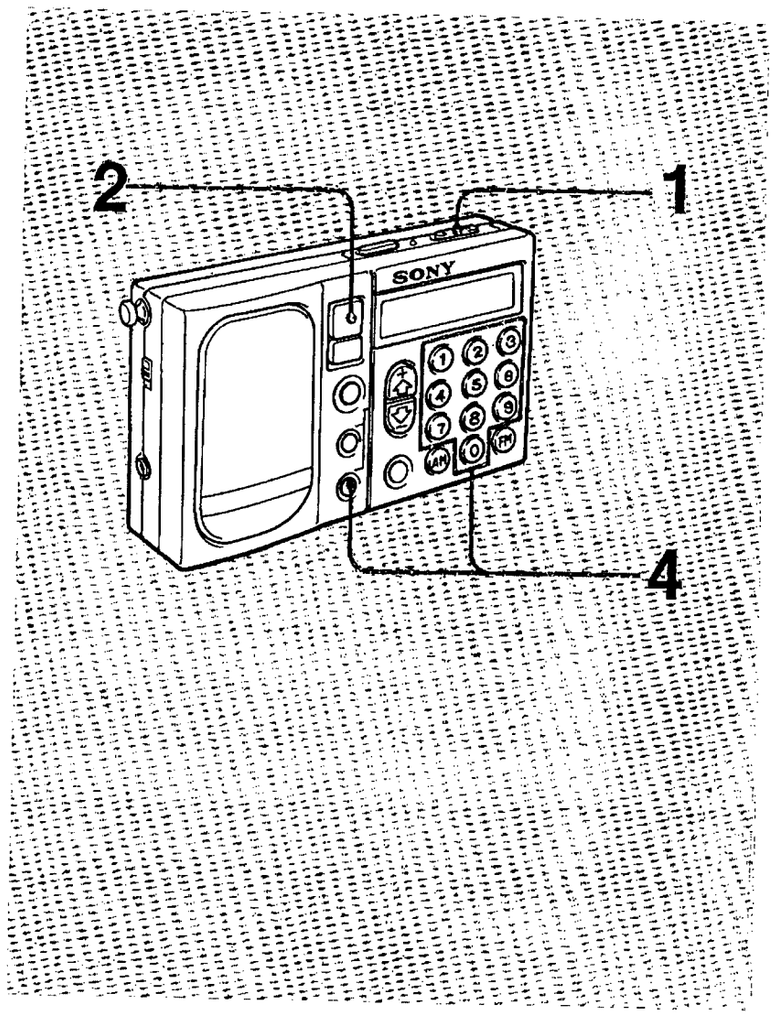
6 **Tune in the station more precisely by MANUAL TUNE (+ or −).**

Broadcast band		Frequency range	SW meter band
AM	SW	11500 kHz ~ 12150 kHz	25 meter band
		13500 kHz ~ 13900 kHz	21 meter band
		15000 kHz ~ 15700 kHz	19 meter band
		17450 kHz ~ 18000 kHz	16 meter band
		21400 kHz ~ 21950 kHz	13 meter band
		25600 kHz ~ 26100 kHz	11 meter band
		26105 kHz ~ 29995 kHz	*4
FM		76.00 MHz ~ 108.00 MHz	*5

*4 • These frequencies can be tuned in either by direct tuning or manual tuning but cannot be selected by pressing both BAND and MANUAL TUNE buttons.
• These frequencies cannot be tuned in with the model for Germany and Middle east countries.
*5 87.5 - 108 MHz for the model for France, Germany, Sweden, Switzerland, Scandinavian countries and Middle east countries.

The frequency allocation
LW....3 kHz
MW....9 kHz/10 kHz
SW....5 kHz
FM....100 kHz

PRESET TUNING



The number of stations you can preset
Up to 10 stations of either an FM or AM can be preset to PRESET.

HOW TO PRESET A STATION

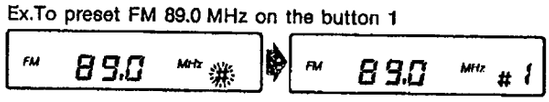
1 **Set MAIN POWER to ON.**

2 **Press ON/OFF.**

3 **Tune in a desired station.**

4 **Press one of the PRESET buttons while keeping ENTER pressed.**
The desired station is preset on that button.

Ex.To preset FM 89.0 MHz on the button 1



TO TUNE IN A PRESET STATION

1 **Set MAIN POWER to ON.**

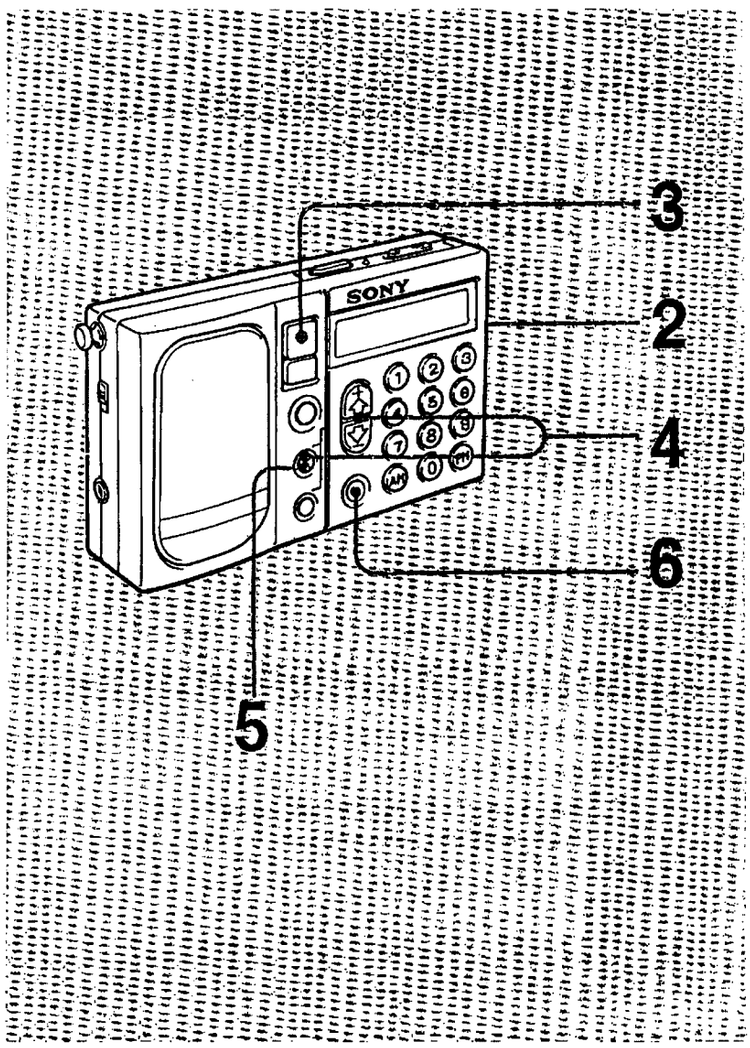
2 **Press ON/OFF.**

3 **Press the desired PRESET button.**
The preset station will be tuned in.

To check your presetting
Press PRESET while pressing BAND.
The frequency of the preset station is displayed while BAND is pressed.
You can check anytime even if another station is tuned in.

To change the preset station
Preset a station to the desired PRESET button. The station previously preset to the button is erased.

HOW TO TURN ON THE RADIO AUTOMATI



Note
After setting the timer, if you tune in another station and turn off the radio, the last station to be tuned in will be received when the timer turns the radio on.

Once you preset the time
The radio is turned on at the same time everyday, unless you press STANDBY to release the standby mode. (The STANDBY indicator disappears).

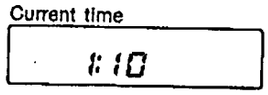
CALLY—Timer standby function

1 **Tune in the station** which you want to listen to at the desired time.

2 **Adjust the volume.**

3 **Press ON/OFF.**
The radio will be turned off.

Current time



4 **Set the time by pressing MANUAL TUNE (+ or −) while keeping ALARM SET pressed.**
If you keep MANUAL TUNE pressed, the time will change continuously.

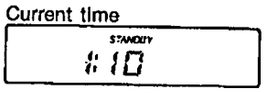
Timer setting time

STANDBY indication flickers.

5 **Stop pressing ALARM SET** and the current time appears in the display.

6 **Press STANDBY.** STANDBY indicator will continue to be displayed.

Current time



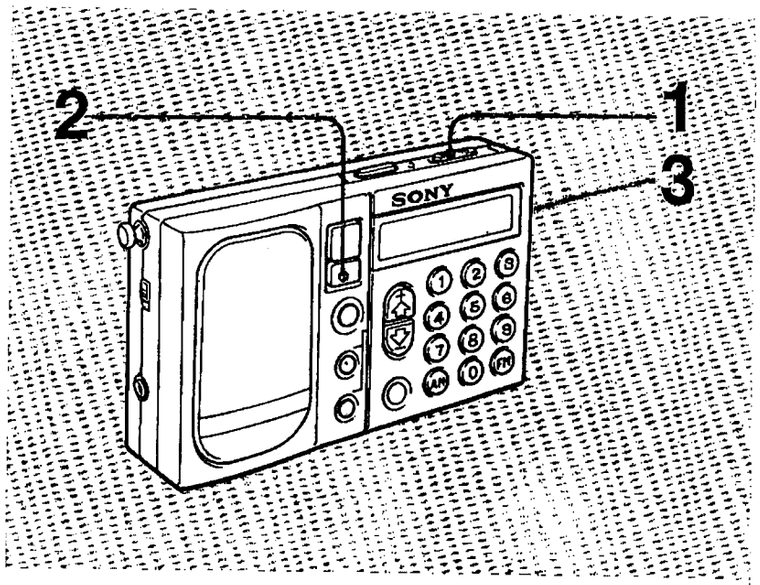
To cancel the alarm mode
Either press STANDBY or set MAIN POWER to OFF.

To check the preset time
Press ALARM/SET.

To change the preset time
Set the desired alarm time, the time previously set is erased.

When the radio is turned on at the preset time
The radio will be turned off after about 65 minutes.

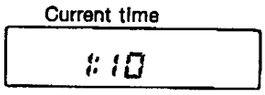
HOW TO SET THE SLEEP TIMER



When you press SLEEP while listening to the radio
The radio will be turned off automatically after about 65 minutes.

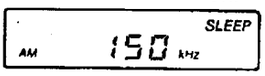
1 Set MAIN POWER to ON.

Current time



2 Press SLEEP.

The radio is turned on.



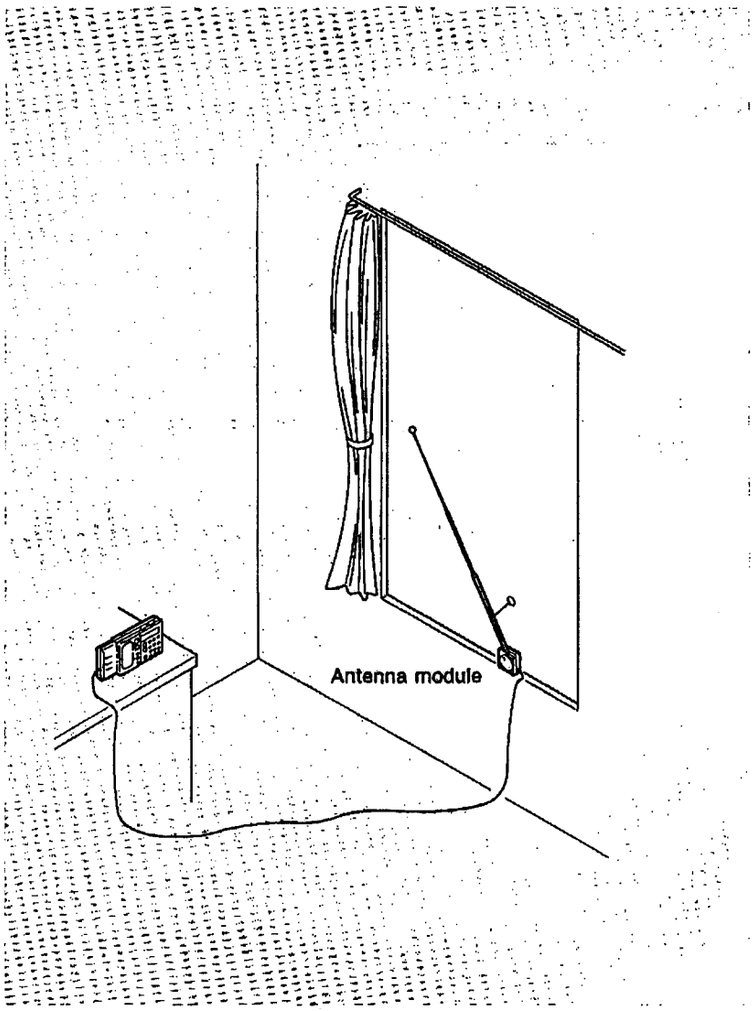
3 Tune in the desired station and adjust the volume.

The radio will be turned off automatically after about 65 minutes.

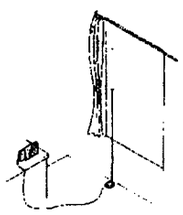
To turn off the radio before the sleep time
Press ON/OFF.

If you press SLEEP after the radio is turned off
The sleep timer activates and the last station to be tuned in will be received.

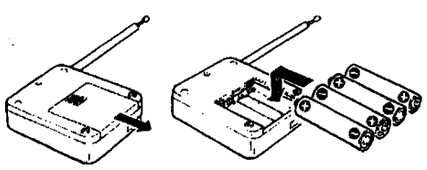
HOW TO USE THE SUPPLIED ACTIVE ANTE



It is also possible to set the antenna module on the floor.



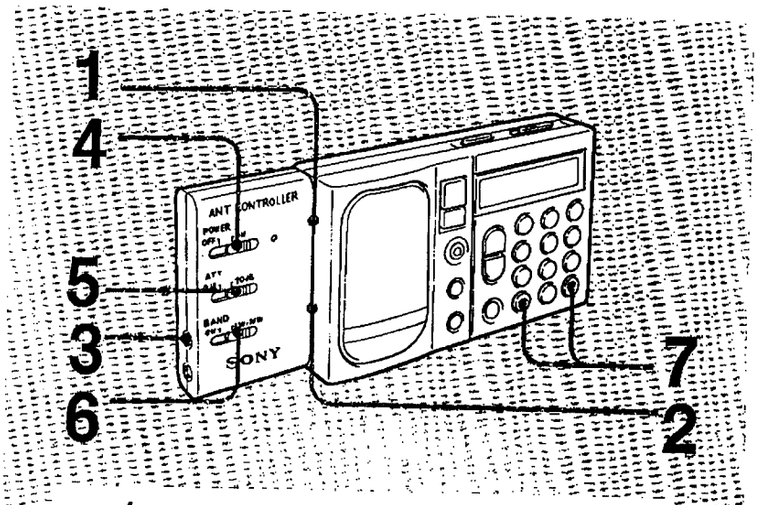
How to install the batteries of the antenna module



(Rear)

Four R6 (size AA) batteries

NNA—For better LW/MW/SW reception



1 **Set SENS of the radio to DX.**

2 Collapse the rod antenna and **install the antenna controller to the radio.**

3 Pull out the output cable from the antenna module and **plug it into the FROM MODULE jack.**

4 **Set POWER to ON.**
The power indicator lights up.

5 **Set ATTENUATER to 0 dB.**

6 **Set BAND to the desired band.**

7 Select the same band on the radio and **tune in the desired station.**

8 **Extend the telescopic antenna** of the antenna module.

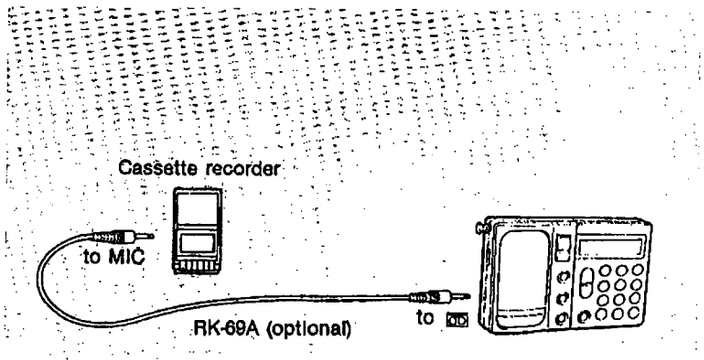
Replacement of the batteries of the antenna module
When the power indicator becomes dim, replace all batteries with new ones.

Battery life of the antenna module
See "Specifications" on page 91.

If the radio signals are jammed up
Set ATTENUATOR to −20 dB.

After using
Set POWER of the antenna controller to OFF and disconnect the antenna controller and the output cable. If you pull out the output cable from the FROM MODULE jack or turn off the power switch, the power of the antenna is turned off and the indicator lights off.

HOW TO RECORD RADIO PROGRAMS



Tune in a desired radio program and set the cassette recorder to the record mode.

Monaural recording
Radio programs are recorded monaurally.

SPECIFICATIONS

Circuit system
FM: Superheterodyne
AM: Dual, conversion superheterodyne

Frequency range

FM	France, Germany, Switzerland, Scandinavian countries, Middle east countries	87.5–108 MHz
	Other countries	76–108 MHz
LW	Saudi Arabia, Malaysia	150–285 kHz
	Other countries	150–528 kHz
MW	(with MW channel step selector at 9 kHz)	531–1611 kHz
	(with MW channel step selector at 10 kHz)	530–1610 kHz
SW	Germany, Middle east countries	1615–26105 kHz
	Other countries	1615–29995 kHz

Antennas
Telescopic antenna (FM/SW)
Built-in ferrite bar antenna (MW/LW)
Active antenna (LW/MW/SW)

Speaker
Approx. 66 × 38 mm
(2⅝ inches × 1½ inches), 8 ohms

Power output
250 mW (at 10% harmonic distortion)

Outputs
Recording output jack (minijack)
output level 0.775 mV (−60 dB)
output impedance 1 kilohm
Headphone jack (stereo minijack) for
18 ohm stereo earphones

Power requirements
Radio: 3 V dc
Two R6 (size AA) batteries
Supplied AC power adaptor (110, 120, 220 or 240 V ac adjustable, 50/60 Hz)
Optional DCC-70 car battery cord for use with 12 V car battery

Battery life
Radio: approx. 12 hours of listening for four hours a day at a normal volume, using Sony SUM-3 (NS) batteries
Antenna module: approx. 60 hours using Sony SUM-3 (NS) batteries.

Dimensions
Approx. 118.2 × 71.4 × 23.7 mm (w/h/d)
(4¾ × 2⅞ × 15/16 inches)
Including projecting parts and controls

Weight
Approx. 230 g (5 lb 6.5 oz) including batteries
Approx. 1.9 kg (4 lb 3 oz) including all the accessories supplied
Approx. 1.5 kg (3 lb 5 oz) including all the accessories supplied except the AC power adaptor

Accessories supplied
AC power adaptor (1, except for the model for Australia), Stereo earphones (1), Antenna controller (1), Antenna module (1), Carrying case (soft...1 hard...1), AC plug adaptor (1, except for United Kingdom model), Suction cup (1), Carrying belt (1), Wave handbook (1)

Design and specifications subject to change without notice.

Optional accessories

Car battery cord	DCC-70
Connecting cord	RK-69A (miniplug to miniplug)

Note

This appliance conforms with EEC Directives 76/889 and 82/499 regarding interference suppression.

TROUBLESHOOTING GUIDE

The power is not turned on even if you press the ON button.
- Weak radio batteries.
- Incorrect polarity of radio batteries. See page ⑩.
- The MAIN POWER switch is set to OFF.
- The AC power adaptor or a car battery cord is not connected on AC operation.
- Battery operation is attempted while an AC power adaptor or a car battery cord is connected to the set, but not to a wall outlet or cigarette lighter socket.

No display in the time display
- Incorrect polarity of batteries. See page ⑩.
- Weak batteries.

Display is dim.
- Weak radio batteries.

➡Replace both batteries with new ones for the frequency display or the time display.
- The set is being used in extremely high temperatures or in a place with excessive moisture.

Sound is not heard at all.
- The VOLUME control is turned down completely.
- The stereo earphones are plugged in.
- Incorrect polarity of batteries. See page ⑩.

Very weak or interrupted sound, or unsatisfactory reception.
- Weak batteries.
- Tuning or antenna adjustment is not correct.

➡Tune in correctly with manual tuning. See page ⑱. For antenna adjustment, see page ⑯.
- Weak signal. ➡ When in a vehicle or in a building, listen near a window.
- Figures on the frequency display differ a little from the acted station frequency. ➡ Tune more precisely with the manual tuning. See page ⑱.
- The SENS selector is set to LOCAL. ➡ Set to DX.

Frequency cannot be input when direct tuning.
- EXECUTE was not pressed within 5 seconds after the preset keys have been pressed.

Presetting frequency cannot be input.
- EXECUTE was not pressed after the preset keys have been pressed. ➡ To input a frequency, while presssing the ENTER key, press one of the preset buttons.

No key input is acceptable.
- The KEY PROTECT button has been pressed. ➡ Press this button again to make ⊶ mark disappear.

The preset station cannot be received when preset tuning.

- Incorrect preset button is preset.
- The preset station is erased. ➡ After replacing the batteries, preset the station again.

The radio is not turned on at the timer-setting time.

- The STANDBY button has not been pressed.
- When it took more than 10 minutes to replace batteries, the timer setting-time has been erased.

➡After replacing the batteries, set the timer again.

- The MAIN POWER switch is set to OFF.